

SUPPORT FOR THE AMENDMENT

Claim 1 has been amended and Claims 19-29 have been added as supported by Claim 1, the specification and examples, for example at page 4, second full paragraph and at page 5, 2nd and 3rd full paragraphs. No new matter would be introduced by entry of these amendments.

Upon entry of these amendments, Claims 1 and 4-29 will be pending in this application. Claims 1 and 23 are independent. Claims 6-18 are withdrawn from consideration pursuant to a Restriction Requirement.

REQUEST FOR RECONSIDERATION

Applicants respectfully request entry of the foregoing and reconsideration of the application, as amended, in light of the remarks that follow.

Applicants respectfully request that the Examiner cite U.S. Patent No. 5,623,028 ("Fitzgerald"); U.S. Patent No. 6,328,944 ("Mangold-944"); and U.S. Patent No. 6,423,331 ("Mangold-331") on a Form PTO-892.

Applicants wish to thank Examiners Liao and her supervisory Examiner for the helpful discussion with Applicants' Representative on May 5, 2010. The Examiner indicated that including "followed by acid treatment" after "by flame hydrolysis" in Claim 1, may overcome the current rejections. Claim 1 has been so amended. The same language is found in Claim 23.

Fitzgerald, Mangold-944 and Mangold-331 fail to disclose or suggest a silicon dioxide powder, produced by flame hydrolysis followed by acid treatment, and displaying a

hydroxyl group density of 3 to 4.7 OH/nm², wherein the hydroxyl group density is determined by reaction of the silicon dioxide powder with lithium aluminum hydride according to the method of J. Mathias and G. Wannemacher in Journal of Colloid and Interface Science 125 (1988) 61.

The specification discloses at page 2 starting at line 22:

The object of the invention is to provide a silicon dioxide powder that can be incorporated into aqueous dispersions with high fill contents. The object of the invention is further to provide a dispersion containing this silicon dioxide powder which can be used as an alternative to dispersions containing silicon dioxide obtained from flame hydrolysis processes, without displaying their disadvantages.

The specification further discloses at page 3, 1st paragraph:

Flame hydrolysis according to the invention refers to the formation of silicon dioxide by flame hydrolysis of at least one evaporable, silicon-containing compound in the gas phase of a flame. The flame is generated by the reaction of a hydrogen-containing fuel gas and an oxygen-containing gas. During this reaction water is formed in the form of water vapour, which leads to a hydrolysis of the silicon-containing compound with formation of silicon dioxide. As is explained by J. Mathias and G. Wannemacher, Journal of Colloid and Interface Science 125 (1988), **the surface of the untreated silicon dioxide powder produced by flame hydrolysis displays a hydroxyl group density of approx. 1.8 to 2.5 OH/nm². Even if additional water vapour is charged into the process, as described for example in DE-A-1150955, the hydroxyl group density remains within this range.**

(Emphasis added.)

Moreover, the specification discloses at page 4, 2nd and 3rd full paragraphs:

The person skilled in the art **would not have considered a treatment under acid conditions as a means of increasing the hydroxyl group density of a silicon dioxide powder produced by flame hydrolysis**, since it is known that in a flame hydrolysis process water vapour is present at many points and yet the powder obtained from the process only displays a hydroxyl group density of less than 2.5 OH/nm².

The silicon dioxide powder according to the invention can be incorporated into aqueous media substantially faster than untreated silicon dioxide powder produced by flame hydrolysis.

(Emphasis added.)

The silicon dioxides of Fitzgerald, Mangold-944 and Mangold-331 are not produced by flame hydrolysis followed by acid treatment. In fact, the silicon dioxides of Fitzgerald are treated with silanes to achieve a certain hydroxyl group density (see the examples of Fitzgerald). In contrast, in the present invention, the combination of flame hydrolysis followed by acid treatment results in the hydroxyl group density of 3 to 4.7 OH/nm².

Mangold-944 and Mangold-331 do not cure the defects of Fitzgerald.

Thus, the prior art rejections should be withdrawn.

In view of the foregoing amendments and remarks, Applicants respectfully submit that the application is in condition for allowance. Applicants respectfully request favorable consideration and prompt allowance of the application.

Should the Examiner believe that anything further is necessary in order to place the application in even better condition for allowance, the Examiner is invited to contact Applicants' undersigned attorney at the telephone number listed below.


Respectfully submitted,

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